

REMARKS

I. Present Status of Patent Application

Claims 1 through 3 and 55 through 67 have been allowed.

Claims 52 and 53 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Reay (U.S. Patent Number 6,005,414, hereinafter referred to as "Reay").

II. Discussion of Rejections

A. Allowance of Claims 1 through 3 and 55 through 67

Applicants thank the Examiner for the allowance of claims 1 through 3 and 55 through 67.

B. Rejection of Claims 52 and 53 Under 35 U.S.C. § 102(e)

The Office Action rejects claims 52 and 53 under 35 U.S.C. § 102(e) as being unpatentable over Reay. For at least the reasons set forth below, Applicants traverse this rejection.

Independent claims 52 recites:

52. A transmission unit, comprising:
a line driver having an output stage, wherein the output stage is configured to transmit a signal having a peak-to-peak voltage swing that exceeds the maximum drain-source voltage of integrated circuit technology used to implement the line driver.

(Emphasis added).

Independent claim 53 recites:

53. A communications system, comprising:
a transmission unit having an integrated line driver,
the integrated line driver having an output stage, wherein
the output stage is configured to transmit a signal having a
peak-to-peak voltage swing that exceeds the maximum
drain-source voltage of integrated circuit technology used
to implement the line driver.

(Emphasis added).

Applicants submit that claims 52 and 53 are neither anticipated nor obvious in view of Reay because:

- (1) Reay does not disclose each and every element of either claim 52 or 53; and
- (2) Reay teaches away from claims 52 and 53.

As recited above, both claims 52 and 53 require that "the output stage" of the transmission unit "transmit a signal having a peak-to-peak voltage swing that exceeds the maximum drain-source voltage of integrated circuit technology used to implement the driver." Thus, both claims 52 and 53 require that the transmitted signal from the line driver have a peak-to-peak voltage swing that exceeds the maximum drain-source voltage of the integrated circuit technology used to implement the line driver. In other words, the peak-to-peak voltage swing of claims 52 and 53 are controlled by the output stage of the line driver and, hence, are influenced by internal components of the transmission unit.

Unlike the requirements of claims 52 and 53, the output voltages of Reay are forced beyond the input voltages by external factors, such as other drivers, variations in ground voltages, and test equipment usage. For example, the cited portions of Reay teach that "[o]utput voltages can exceed supply voltages when, for example, other line drivers that have voltage swings greater than the supply voltages are used; other causes include

variations in ground voltage and test equipment usage" (column 7, lines 55 through 59, emphasis supplied). Thus, unlike claims 52 and 53, in which the internal components determine the voltage swing that exceeds the maximum drain-source voltage, Reay teaches that external interferences (e.g., other line drivers, variations in ground voltage, and test equipment usage) force the output voltages to exceed the supply voltages. In other words, Reay does not teach that "the output stage [of a line driver] is configured to transmit a signal having a peak-to-peak voltage swing that exceeds the maximum drain-source voltage of integrated circuit technology used to implement the line driver."

Indeed, Reay's circuits are designed to prevent operation of certain components when output voltages are forced beyond the supply voltages. For example, Reay explicitly teaches:

When current-mode circuitry is placed in a high impedance state (*i.e.*, the current-mode transistors are turned OFF) and other portions of circuitry 200 are then enabled, diodes 219, 220, 221, and 222, which are preferably Schottky diodes, prevent the current-mode transistors from undesirably turning back ON. This is accomplished by preventing the inherent well and substrate diodes of those transistors from forward-biasing, and thus conducting, if the output voltages are forced beyond the supply voltages. Output voltages can exceed supply voltages when, for example, other drivers that have voltage swings greater than the supply voltage are used; other causes include variations in ground voltage and test equipment usage. The Schottky diodes also permit a high impedance state to be maintained when power is removed from circuitry 200. Thus, those high impedance features advantageously permit the various portions of circuitry 200 to share output lines without interfering with each other.

Reay at column 7, lines 47 through 64.

Since Reay circuits prevent operation of circuit components when output voltages are forced beyond the input voltages, Applicants respectfully submit that Reay teaches away from claims 52 and 53. In other words, Reay teaches away from an output stage of a line driver being configured to "transmit a signal having a peak-to-peak voltage swing that exceeds the maximum drain-source voltage of integrated circuit technology used to implement the line driver."

Since claims 52 and 53 are neither anticipated nor obvious in view of Reay, Applicants respectfully request allowance of claims 52 and 53.

III. Prior Art Made of Record

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

CONCLUSION

Applicants respectfully submit that all claims are now in proper condition for allowance, and respectfully request that the Examiner pass this case to issuance. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this response. If, however, any fee is deemed to be payable, you are hereby authorized to charge any such fee to Deposit Account No. 20-0778.

Respectfully submitted,



Daniel R. McClure
Daniel R. McClure, Reg. No. 38,962

THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.
Suite 1750
100 Galleria Parkway N.W.
Atlanta, Georgia 30339
(770) 933-9500